

NEW ABSTRACT

A method for calculating total left ventricular (LV) volume during a cardiac cycle includes estimating the LV volume using only endocardial contours in a cardiac 3D image that was acquired at end diastole (ED), i.e. the moment at which the heart is fully relaxed. These contours are manually specified or (semi-)automatically derived. Based on these contours and on the pixel intensity in all other images, the LV volume is estimated based on intensity variations within the area enclosed by the contours (ED LV blood pool). These variations are proportional to the change in size of the ventricle. Hence ventricle volume and other derivable cardiac functionality parameters as well as the phase in the cardiac cycle are derived.